1: Bowen-Jones et al. K-5 (1955-1958) 1961
EZ6 Malta EZ6

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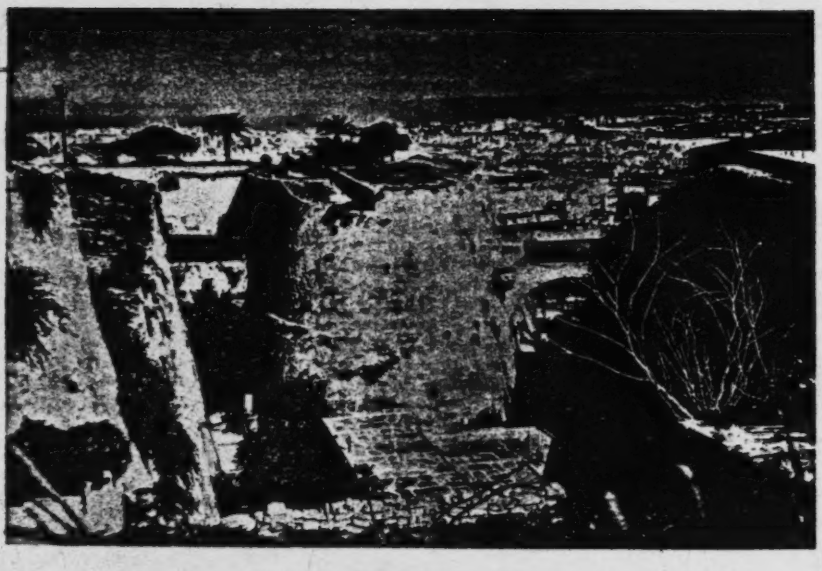

Plate XI. The Bastions, Valletta.

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492
493

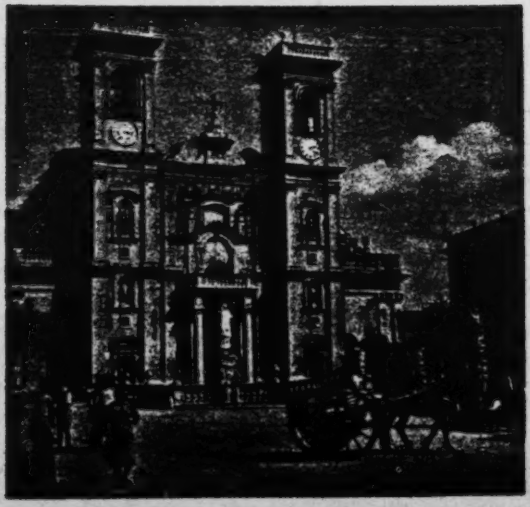

Plate XII. The Church and Piazza, Żebbar.

1: Bowen-Jones et al. K-5 (1955-1958) 1961
EZ6 Malta EZ6

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Plate XIX. Tillage - traditional style.

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Plate XX. Tillage - new style.

1: Bowen-Jones et al. K-5 (1955-1958) 1961
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question unless a complete agricultural revolution committed Maltese farming to thorough-going dairy farming specialisation. Such specialisation, given the climatic and physiological difficulties, would not be easy to justify. A very considerable seasonal glut of milk exists between May and August at present, and the Milk Marketing Undertaking cannot handle the flush. This degree of fluctuation could be lessened but not removed. Costs of production are such that not only would exports be uneconomic but imported tinned milk can and could considerably undercut home production. Local consumption of fresh cows' milk could not be expanded much more than 10 to 15 per cent. above the present level which is already the highest in the Mediterranean, as long as tinned milk is more easily preserved, and as long as the rural community keeps goats and sheep. The banning of milk imports and of the production of goat milk would hardly be in the consumer's economic or dietetic interests.

Horses, mules and donkeys, some 6,500 in number, are still very important as work animals. For farm transport, they can only be replaced by the internal combustion engine purchasable only by the more prosperous cultivators. Produce collection by merchants' lorries is increasing as also is the use of hired tractors for cultivation. The numbers of these animals is unlikely to decrease quickly outside the urban areas because of their usefulness in tilling difficult land.

Of the remaining small livestock, rabbits and poultry already make a very large although immeasurable contribution to food supplies. Improvements in quality could be obtained if farmers' interest was aroused. At present, mixed breeds of poor poultry are commercially uneconomic.

In conclusion, we must return to the vexed question of dairy-farming and milk production in Malta. In 1950, the Director of Agriculture (1) put the question: 'Under prevailing conditions in Malta and Gozo, which is the more profitable animal to keep? The cow or the goat?', and followed with the statement: '. . . no accurate answer backed by accurate scientific data has ever been given'. The same impasse had often been noted before, for example by Dawson Shepherd (2), and Stockdale (3). An unpublished report on Maltese Agriculture by a visiting F.A.O. commission (4) similarly found itself at sea in the absence of any firm information. In 1956, the complexity as well as the obscurity of the situation was manifested in a Report on the Dairy Industry by G. W. Ford (5). In this study, reference is made to the different conclusions reached by independent observers, and to intermediate suggestions made by Marshall (6), one of whose remarks: 'I simply cannot visualise hygienic milk production by the peasant farmer in Malta', our observations would endorse.

Milk-production in Malta is no longer a matter of economics but, as in many countries, is affected by social and dietetic policies. Brief mention was made in Chapter VI C of the problem of the incidence of undulant fever and its association with milk infected by *Brucellosis Melitensis*. Some 20 per cent. of Maltese goats are thus infected, and any dietetic campaign to encourage the drinking of milk, particularly important in child welfare, must take account of this. Few cows are thus far infected and elimination is easier. The problem that emerges is therefore both economic and social in character. It is felt by some that reliance on imported tinned milk is one solution but by others such a suggestion is regarded as humiliating. Another possible line of action is to replace goats with milch cows, and in 1956 a system by which herdsmen were offered one Dutch Friesian heifer in calf for 12 diseased goats actually came into operation. The third possibility is to accept the position as it exists at the moment, or slightly to modify it, and centralise milk distribution thus enabling pasteurisation. This too has been done. Even now however, the cost of tinned milk imports, the cost of producing cows' milk, the surplus of goats' milk, all these as well as the land use point mentioned earlier, still remain to be dealt with. As we shall see, the market for milk called into being as a social measure is now the mainstay of many farmers of all grades. The development of the centralised agency, the Milk Marketing Undertaking has been accompanied by a guaranteed price system. Some 80 per cent. of all milk producers have, as a result of this organising of wholesale purchases, formed their own union the K.M.H. - *'Kumpanija Maltija*

B. Cultivation Equipment and Tillage

Of the implements observed in Malta, the traditional types of plough, hoe, sickle and harrow are of the same genera as those to be generally found in the Mediterranean region (Fig. 140).

Ploughs are of the *Aratrum* or *Ard* type, steel tipped wooden wedges, devoid of cutting edges and having very restricted powers of furrow making or inversion - *moldriel*. None of those observed had lateral 'ears' or 'wings' but apparently ards thus equipped are occasionally used. There are various sub-types with differing arrangements of beam, body and handle but no constant rational relationship between these sub-types and local environments could be observed. Prices range upwards of £4 10s. 0d. Iron or steel tips for the body cost about £1. One interesting modification of the plough is manufactured at Żurrieq. On top of the basic beam and body is fitted a movable double mouldboard of which either or both breasts can be brought into operation at any one time. Ridging and left and right furrow inversion are therefore made possible. For those areas where furrow inversion is practicable such a cheap, light multi-purpose implement would be very valuable, and the development of such improvements might well be encouraged by official approbation.

Hoes are manufactured in four main types. The heavy spade type, the *Żappuna*, is generally used for soil trenching in preparation for manuring. The effort involved tends to restrict its use. The small, single tined, wedge-shaped hoe, the *Mgħażqa* or *Lexxuna*, is a general purpose implement that is replaced under damp and cohesive soil conditions by a forked, two-tined variety, the *Kroxun*. A three-tined hoe is often used, together with the ard, for potato lifting. In general, each cultivator possesses a selection of different types of hoe, necessitated by the variety of manual operations he usually has to perform and made possible by the reasonable prices of the implements (prices range from about 16s. for the single-tine, to 18s. to £1 for the spade hoe).

The sickle in general use is a small, smooth-edged type costing about 12s. 6d. The small number of sickle types observed may result from the widespread practice of pulling rather than cutting green fodder. Traditional harrows are almost invariably of the Mediterranean and Asiatic type, harrows cum levellers and seed coverers. Those observed were triangular and stone weighted. When manufactured for the purpose they were usually constructed of ash and had removable tines. Without metal tines, the cost is about 50s.

These implements, of which illustrated examples are given (Fig.140), have already to some extent been displaced by imported newer types. Most farmers who possess fields which are at all accessible to tractors now periodically hire contractors to plough the land with mouldboard or disc ploughs and even, in some areas, with deep digger-ploughs. Where plots are small or the terrain difficult, then rotary cultivators are hired or purchased. These latter machines, in spite of their relatively high cost - usually over £200 in Malta - are amazingly popular and are more and more replacing the *ard* and the hoe. The reasons for, and implications of this popularity are examined below.

The spade proper is hardly ever used, and its absence is associated with the reasons for the survival of the *ard* plough. Small, light, flexible, metal harrows are to be found. Entirely imported, their only advantages are their flexibility on rough ground and ease of draught. They are, on the other hand, more easily damaged and more difficult to repair than their wooden prototypes. Other equipment includes a great range of fixed and movable adjuncts to farming, all but one class of which are constructed rurally from local materials. The exceptional group is that connected with irrigation and includes windpumps and small diesel engines. Threshing and winnowing, traditional style, needs no more than a rock or *torba* (beaten earth) floor and asses or horses for trampling, baskets constructed of local cane, and simple wooden winnowing forks. Of recent years, centralised threshing by contractors' machines has almost entirely displaced the older method in all but the more remote western regions. Canes, grown in slightly marshy conditions in wied floors, provide the raw material for wind breaks, covered forcing beds, crop supports, etc.

for wind breaks, covered forcing beds, crop supports, etc. Livestock harness is simple in type consisting of head harness and collar. Working bullocks, now rarely used, are also equipped with collars for traction but the guiding reins are attached to the horns. Country carts are unsprung, wooden frames resting directly on the metal axles. That the ruggedness of their construction is only equalled by the toughness of the draught animals is evinced by their presence on places such as Dingli Undercliff, or the cliffsides of the Wied il-Luq (Buskett).

The solidly built stone huts or *orfa* that are to be found on most holdings may be regarded as part of the farmers' 'equipment' rather than his habitation. The simplest and most numerous are simple one-roomed cubes, some five yards square, strongly constructed, usually of worked stone blocks with wood and *torba* roofs. These 'blockhouses', for such they appear, serve as storehouses for implements and crops, for guns and birdcatching equipment, as well as for shelter during the 'siesta' hours and bad weather. Their cost in construction labour, and the pride that does into the simple furnishing of what is the farmers 'den', as well as the deceptive appearance of dispersed settlement that they give, suggests that further investigation into their origins might prove valuable. In general terms, they seem to be a natural response to the marked concentration of settlement in the casals. They are far less numerous in the western region of more recent and dispersed settlement. The larger, two-roomed and two-storied types are used mainly as summer working residences, when a whole family may move out of its casal to the main holding.

These implements and types of equipment are one facet of the complex of traditional cultivation techniques - techniques based on the intense and continuous application of uncosted hand labour. A brief examination of the working characteristics of some of the implements is a necessary introduction to a discussion of general cultivation techniques.

The *mokriet* (Plate XIX) is used as an animal-drawn hoe rather than as a plough proper. It is light and can be carried by the cultivator along narrow field paths and across rugged terrain. Its negotiability is limited only by the ease of access demanded by the draught animals. The 'rotavator' (Plate XX) alone of modern mechanical implements can rival it in this respect. On coarse soils, often only a few inches deep, cross tilling by hoe or *ard* seems perfectly satisfactory for tilth making. A vertically applied tool such as the true spade cannot be utilised in such soils, while all but the simplest mouldboard ploughs are too clumsy for use in small terraced fields. Both *ard* and hoe are used in garden rather than field style and their only disadvantages lie in the slowness of the work performed. Here lies the especial advantage of the rotavator that can, under reasonable conditions, be used for tilling six *tmien* of land a day as compared with about two or three for the *ard* and one for the hoe. (Figures are necessarily approximate averages.)

Cultivation techniques and the farming landscapes which they have produced are now in a critical stage of development. For millennia, a slowly increasing population has been utilising the natural land resources more and more intensively and also supplementing them by artificial works. Until the early nineteenth century, social and tenurial obstructions to full land use on the one hand, and wealth derived from the overseas possessions of the Knights of Malta on the other, little affected the basic land hunger of the rural community. During the period of British occupation, however, externally derived income has brought with it more and more non-agricultural activity. Opportunities for non-farm work have increased and so has socio-economic dissatisfaction with arduous and limited rural life. The stage has now been reached at which land reclamation and land abandonment, intensification of effort and neglect, are proceeding simultaneously. An examination of those landscape features which are products of farming techniques suggests that this stage is now critical.

Land reclamation and the extension of the cultivable area are still going on. At several points on the Delimara peninsula, material is being carried from the cliff foot and from old huts and dwellings and spread over the existing thin and discontinuous soil cover. On this, soils as a soil building leguminous crop

[see page 306 -- ANALYST]

7: Busuttil I, Y-4, 5 (no date) 1894
EZ6 Malta EZ6

belly, while with a thong in each hand they keep urging the gaily bedecked beasts to reach the goal first. 527 541

Soon after the races the merry parties set out on their return to their dwellings at quite a racing speed. Now you see every description of vehicle vying with its neighbour, and every driver urging with whip and voice to a reckless break-neck gallop his steed, adorned with two or more rows of tinkling bells hanging round the neck. 527 492 493

Flags and variegated silk handkerchiefs are streaming from the carriages, and ribbons from the horses' heads. Every cart is crammed, as only the Maltese can cram on anything on wheels. The sun-burnt country women are laughing and pelting the by-standers with apples, and waving tall green reeds and poplar branches in their 527